

CLAIMS

1. A deflector by-pass valve for engine exhaust gas for use with an  
5 exhaust gas recirculation system comprising a multiform block (1) hav-  
ing a flange (2), two side walls (4) and (5) disposed perpendicularly to  
the flange (2), an intermediary wall (6) disposed within an interior of the  
block for dividing the interior into two adjacent compartments (7) and  
10 (8), open at the flange and interconnected by a circular opening (9a) in  
the intermediary wall (6), the circular opening (9a) of the intermediary  
wall(6) positioned in alignment with the openings (9) on the two side  
walls (4) and (5) which define gas passages for receiving the exhaust  
gas from the engine; the opening (9a) on the central wall providing two  
15 through holes positioned in diametrically opposite directions along a  
width of the body, for receiving bearing means (11), a crossover shaft  
(10) located in the opening (9a) and rotationally supported by the bear-  
ing means, an end of the shaft (10) connected to a plate (12) equipped  
with a perpendicular pawl (13), which acts as a limiter of the rotary mo-  
20 tion through engagement of the plate (12) on a shoulder (14) located  
on the block; valve means fixed to the shaft (10) for blocking/releasing  
the gas passage in correspondence to the rotation of the shaft, the  
body having a support (16) for an actuator (17), to which an axial rod  
(18) is connected, extending up to the plate (12), having an end articu-  
25 lated to an eccentric point (19) in relation to a point of connection of the  
shaft (10), the rod (18) converting rectilinear motion of the shaft (10)  
into a circular motion for moving the valve means, the body having two

ducts (20), one for admission and one for return of a liquid coolant for cooling the valve means.

2. The deflector by-pass valve of claim 1 wherein the flange has holes for receiving mounting bolts therein.

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3. The deflector by-pass valve of claim 1 wherein the side walls have holes for receiving mounting bolts therein.

4. The deflector by-pass valve of claim 1 wherein the bearing means  
10 comprise roller bearings or bushings.

5. The deflector by-pass valve of claim 1 wherein the valve means is a butterfly valve.

15 6. The deflector by-pass valve of claim 1 wherein the actuator is a vacuum/pressure pneumatic actuator.

7. The deflector by-pass valve of claim 1 further comprising control means for controlling a position of the valve means responsive to ex-  
20 haust gas temperature.